

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A base station apparatus, including:

a receiver which receives signals from a terminal apparatus which is a targeted communication party, each of the signals corresponding to one of a plurality of modulation methods;

a permissible delay time detector which detects, from the signals received by said receiver, permissible delay time in data communication corresponding to an application used in said terminal apparatus;

a quality detector which derives from the received signals a value indicative of the quality of a communication line;

a decision unit which determines a modulation method to be used for data for the terminal apparatus and the number of channels per frame to be allocated to said terminal apparatus, in a communication line that contains a plurality of channels in a frame, according to the permissible delay time detected by said detector, so that the communication rate as determined by the modulation method and the number of channels approaches a predetermined value; and

an instruction unit which instructs said terminal apparatus to perform communication of data corresponding to the application by using the modulation method and the number of channels determined by said decision unit, wherein

if the detected permissible delay time is greater than a predetermined threshold value, said decision unit determines to use a modulation method capable of transmitting a relatively large amount of data according to the derived value indicative of the quality of a communication line, and, subsequently, to use a relatively small number of channels and

if the detected permissible delay time is less than or equal to the predetermined threshold value, said decision unit determines to use a relatively large number of channels in accordance with the number of unoccupied channels, and, subsequently, to use a modulation method that ensures a relatively low error rate.

2. (Cancelled)

3. (Cancelled)

4. (Currently Amended) A communication system, including:
a terminal apparatus which uses a predetermined application; and
a base station apparatus which communicates with said terminal, apparatus via a communication line containing a plurality of channels in a frame, using one of a plurality of modulation methods,

wherein said terminal apparatus transmits, to the base station apparatus, information on permissible delay time in data communication corresponding to the predetermined application to be used, and

wherein said base station apparatus detects quality of the communication line and the number of unoccupied channels and determines a modulation method to be used for data for the

terminal apparatus and the number of channels per frame to be allocated to said terminal apparatus ~~based on the information on permissible delay time received from said terminal apparatus together with the quality of the communication line and the number of unoccupied channels~~, so that the communication rate as determined by the modulation method and the number of channels approaches a predetermined value, wherein

if the detected permissible delay time is greater than a predetermined threshold value, said base station apparatus determines to use a modulation method capable of transmitting a relatively large amount of data according to the quality of a communication line, and, subsequently, to use a relatively small number of channels and

if the detected permissible delay time is less than or equal to the predetermined threshold value, said base station apparatus determines to use a relatively large number of channels in accordance with the number of unoccupied channels, and, subsequently, to use a modulation method that ensures a relatively low error rate.

5. (Currently Amended) A channel allocating method characterized in that, based on permissible delay time and the quality of a communication line in data communication corresponding to an application used in a terminal apparatus which is a targeted communication party, a modulation method to be used for data for the terminal apparatus and the number of channels per frame to be allocated to the terminal apparatus are determined for a plurality of channels per frame contained in a communication line connected with the terminal apparatus, so that the communication rate as determined by the modulation method and the number of channels approaches a predetermined value, wherein

if the detected permissible delay time is greater than a predetermined threshold value, a determination is made to use a modulation method capable of transmitting a relatively large amount of data according to the quality of a communication line, and, subsequently, to use a relatively small number of channels and

if the detected permissible delay time is less than or equal to the predetermined threshold value, a determination is made to use a relatively large number of channels in accordance with the number of unoccupied channels, and, subsequently, to use a modulation method that ensures a relatively low error rate.

6. (Currently Amended) A channel allocating method, including:

receiving signals from a terminal apparatus which is a targeted communication party,
each of the signals corresponding to one of a plurality of modulation methods;

detecting, from the signals received by said receiving, permissible delay time in data
communication corresponding to an application used in said terminal apparatus;

deriving from the received signals a value indicative of the quality of a communication
line;

determining a modulation method to be used for data for the terminal apparatus and the
number of channels per frame to be allocated to the terminal apparatus, in a communication line
that contains a plurality of channels in a frame, according to the permissible delay time detected
by said detecting, so that the communication rate as determined by the modulation method and
the number of channels approaches a predetermined value; and

instructing the terminal apparatus to perform communication of data corresponding to the application by using the modulation method and number of channels determined by said determining, wherein

if the detected permissible delay time is greater than a predetermined threshold value, the determining step determines to use a modulation method capable of transmitting a relatively large amount of data according to the quality of a communication line, and, subsequently, to use a relatively small number of channels and

if the detected permissible delay time is less than or equal to the predetermined threshold value, the determining step determines to use a relatively large number of channels in accordance with the number of unoccupied channels, and, subsequently, to use a modulation method that ensures a relatively low error rate.

7. (Cancelled)

8. (Cancelled)

9. (Currently Amended) A program executable by a computer, the program including the functions of:

receiving signals from a terminal apparatus which is a targeted communication party, each of the signals corresponding to one of a plurality of modulation methods;

detecting, from the signals received by said receiving, permissible delay time in data communication corresponding to an application used in said terminal apparatus;

deriving from the received signals a value indicative of the quality of a communication line;

determining a modulation method to be used for data for the terminal apparatus and the number of channels per frame to be allocated to the terminal apparatus, in a communication line that contains a plurality of channels in a frame, according to the permissible delay time detected by said detecting, so that the communication rate as determined by the modulation method and the number of channels approaches a predetermined value; and

instructing the terminal apparatus to perform communication of data corresponding to the application by using the modulation method and the number of channels determined by said determining, wherein

if the detected permissible delay time is greater than a predetermined threshold value, the determining function determines to use a modulation method capable of transmitting a relatively large amount of data according to the quality of a communication line, and, subsequently, to use a relatively small number of channels and

if the detected permissible delay time is less than or equal to the predetermined threshold value, the determining function determines to use a relatively large number of channels in accordance with the number of unoccupied channels, and, subsequently, to use a modulation method that ensures a relatively low error rate.

10. (Cancelled)

11. (Cancelled)

12. (Currently Amended) A channel allocating method comprising:

receiving signals from a terminal apparatus which is a targeted communication party,
each of the signals corresponding to one of a plurality of modulation methods;

detecting, from the signals received by said receiving, permissible delay time in data
communication corresponding to an application used in said terminal apparatus;

deriving from the received signals a value indicative of the quality of a communication
line;

determining a modulation method and the number of channels to be allocated to the
terminal apparatus, in a communication line that contains a plurality of channels, according to
the permissible delay time detected by said detecting, so that the communication rate as
determined by the modulation method and the number of channels approaches a predetermined
value; and

instructing the terminal apparatus to perform communication of data corresponding to the
application by using the modulation method and number of channels determined by said
determining, wherein

if the detected permissible delay time is greater than a predetermined threshold value, the
determining step determines to use a modulation method capable of transmitting a relatively
large amount of data according to the quality of a communication line, and, subsequently, to use
a relatively small number of channels and

if the detected permissible delay time is less than or equal to the predetermined threshold
value, the determining step determines to use a relatively large number of channels in accordance
with the number of unoccupied channels, and, subsequently, to use a modulation method that
ensures a relatively low error rate.